

CLAIMS

1. A fire extinguishing system including a nozzle having a cavity, and at least one extinguishant outlet for discharging extinguishant from the cavity into a fluid-filled volume, which outlet is fixed in use, the arrangement being such that a rotational
5 movement of the fluid, including the extinguishant, within the volume is induced.
2. A system according to claim 1, wherein at least a portion of the or each outlet is inclined with respect to any plane which is parallel to and passes through the central axis of the cavity and which intersects the portion of the or each outlet.
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3. A system according to claim 1, wherein a plane which lies parallel to the central axis of the cavity and extends along the central axis of at least a portion of the or each outlet is inclined with respect to the interior wall of the cavity at the region where the outlet meets the interior wall.
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4. A system according to claim 1, wherein the or each outlet extends tangentially from the interior wall of the cavity.
5. A system according to claim 1, in which the direction of flow of the
20 extinguishant in the cavity towards the outlet is aligned with an axis of symmetry of the cavity and in which the axis of at least the distal portion of the outlet does not intersect that axis of symmetry.
6. A system according to claim 1, wherein the or each outlet includes a portion
25 which extends radially with respect to the central axis of the cavity.
7. A system according to claim 1, wherein a plurality of outlets are provided, each having a portion with a different inclination with respect to a radius extending from the central axis of the cavity.

8. A system according to claim 1, wherein the or each outlet is inclined with respect to a plane perpendicular to the central axis of the cavity.

5 9. A system according to claim 1, wherein the nozzle comprises a hollow tube having one or more of said outlets formed therein.

10. A system according to claim 9, wherein the nozzle comprises a plurality of said tubes.

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11. A system according to claim 10, wherein each of said tubes is coupled together at one end thereof for fluid communication with a supply of the extinguishant.

12. A system according to claim 11, wherein each of said tubes is generally linear
15 and is spaced from each of said tubes adjacent thereto by a substantially equal predetermined angle.

13. A system according to claim 10, wherein the nozzle comprises three or more of said tubes.

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14. A system according to claim 8, wherein a plurality of said outlets are formed in said tube.

15. A system according to claim 14, wherein said outlets are equi-spaced.

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16. A fire extinguishing spray nozzle having a cavity and at least one outlet for
discharging extinguishant from the cavity, at least a portion of the outlet being
inclined with respect to any plane which is parallel to and passes through the central
axis of the cavity and which intersects the portion of the or each outlet.

17. A chamber containing fluid, such as air, having a fire extinguishing spray nozzle mounted therein, which nozzle is fixed in use, the arrangement being such that, in use, the extinguishant emitted from the nozzle and the fluid within the chamber
5 turns angularly about the nozzle.

18. A fire extinguishing system including means for supplying a pressurised extinguishant, a nozzle having a cavity for receiving the extinguishant and having at least one outlet for expelling the extinguishant, in use the arrangement being such that
10 at the entrance to the or each outlet, the extinguishant travels generally radially with respect to the central axis of the cavity, and such that the configuration of the outlet deviates the path of the fire extinguishant from the radial direction so that when the extinguishant exits the outlet it travels in a non-radial direction.

15 19. A method of fire extinguishing including emitting a plurality of jets extinguishant into a fluid-filled chamber from a fixed nozzle such that when the jets of extinguishant meet the walls of the chamber they induce a rotational movement in the fluid, including the extinguishant, within the chamber.

20 20. A method according to claim 19, wherein the extinguishant fluid emitted from the nozzle has its path deviated as it passes through the outlets of the nozzle so as to alter the angular momentum of the fluid within the jets.

21. A method of fire extinguishing including emitting a plurality of jets
25 extinguishant into a fluid-filled chamber from a fixed nozzle such that rotational movement in the fluid, including the extinguishant, is induced within the chamber.